

What is claimed:

1. A fusion protein comprising a protein containing a modular protein binding domain (MPBD), and an exogenously introduced coiled-coil heterodimerization domain.
2. The fusion protein of claim 1, wherein the MPBD is selected from the group of domains consisting of src homology 2 (SH2), src homology 3 (SH3) phosphotyrosine binding (PTB) WW, PDZ, 14.3.3, WD40, EH and Lim.
3. The fusion protein of claim 1, wherein the protein containing a MPBD is a tyrosine kinase.
4. The fusion protein of claim 3, wherein the MPBD is src homology 3.
5. A gene encoding the fusion protein of claims 1, 2, 3 or 4.
6. A gene encoding the fusion protein of claim 1, wherein said gene comprises a WIN-ZIP-A1 synthetic amphipathic helix.
7. A gene of claim 6, further comprising a sequence selected from the group consisting of: an HA epitope tag, a BamHI cloning site, and a Kozak translation site.
8. A gene encoding the fusion protein of claim 1, wherein said gene comprises a WIN-ZIP-B1 synthetic amphipathic helix.
9. A gene of claim 8, further comprising a sequence selected from the group consisting of: an Myc epitope tag, a BamHI cloning site, and a Kozak translation site.
10. A vector containing the gene of claim 6.
11. A cell that is transformed by the vector of claim 10.
12. A vector of claim 10 wherein the gene is operably linked to a promoter.
13. A vector containing the gene of claim 8.
14. A cell that is transformed by the vector of claim 13.
15. A vector of claim 13 wherein the gene is operably linked to a promoter.

16. A cell that is cotransformed with the vector of claim 10 and the vector of claim 13.

17. The fusion protein of claim 1, wherein the coiled-coil heterodimerization domain is from an exogenous source.

18. The fusion protein of claim 1, wherein the coiled-coil heterodimerization domain is artificially constructed.

19. The fusion protein of claim 1, wherein the coiled-coil heterodimerization domain is a WIN-ZIP segment.

20. The fusion protein of claim 1, wherein the coiled-coil heterodimerization domain is a WIN-ZIP-A1 segment.

21. The fusion protein of claim 1, wherein the coiled-coil heterodimerization domain is a WIN-ZIP-B1 segment.

22. A library of proteins wherein said proteins contain modular protein binding domain, and each protein has been fused to a WIN-ZIP coiled-coil heterodimerization segment.

23. A library of proteins, wherein said proteins each contain a binding site that binds to a modular protein binding domain (MPBD) and wherein said proteins have been fused to at least one copy of an exogenously introduced WIN-ZIP coiled-coil heterodimerization segment.

24. A library of nucleic acid sequences encoding the library of claim 22.

25. A viral library comprising the nucleic acid sequences of claim 24.

26. A library of nucleic acid sequences encoding the library of claim 23.

27. A viral library comprising the nucleic acid sequences of claim 26.

28. An assay for determining the activity of a protein-protein interaction, comprising:

- (a) transforming a cell by the vector of claim 10, and the vector of claim 13;
- (b) culturing the transformed cell;
- (c) and comparing the activity to a base line control; and
- (d) looking at any change in biological activity to determine the activity of the protein-protein interaction.

